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THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

PRELIMINARY ANNOUNCEMENT OF THE FOURTH ST. LOUIS MEETING

Edited by Dr. HENRY B. WARD

PERMANENT SECRETARY

INTRODUCTION

ST. LOUIS, the great central metropolis, as host will welcome the association on Monday, December 30, for its ninety-seventh meeting. The programs of the various sections and societies, which are outlined in their main features in this preliminary announcement, not only fill the entire week but even in a few cases anticipate the official opening of the sessions. A complete record of events will be given in the official programs distributed to members and guests on registering in St. Louis. The interest and importance of the meeting is clearly evidenced in the outline of events given herein.

The association has already held three conspicuously

successful meetings in St. Louis. The first, in August, 1878, was the twenty-seventh meeting of the association and represented also the second time during thirty years of association history that it had ventured west of the Mississippi River. That season was one "of unprecedented heat," and also a time of sensational reports regarding the spread up river of an epidemic of yellow fever then increasing in the southern states. The secretary of that first St. Louis meeting reported that the health of the city was unusually good and not a single case of illness was reported among the members and guests in attendance. One hundred and thirty-four signed the register and 218 new members were elected. One hundred and three papers were

listed for the program. The total membership of the association at that time had not reached one thousand.

The second St. Louis meeting, which was the fifty-third meeting of the association, was held from December 26, 1903, to January 2, 1904; it was the sixth meeting west of the Mississippi River. The total attendance was 466 and twenty-one affiliated societies were reported as meeting with the association. The association had just embarked on the period of rapid growth and at that date had enrolled 4,075 members. The meeting was conspicuous for its activity and the interest in it had been vigorously stimulated by the approaching Louisiana Purchase Exposition, which opened in St. Louis the following May.

Naturally the proposed International Congress of Arts and Sciences received much attention and as subsequently carried out was regarded as an outstanding feature in the progress of science. Its proceedings were issued in a series of eight volumes containing nearly six thousand pages and constituted a comprehensive presentation of human progress.

The third St. Louis meeting, which was the seventy-second in the record of the association, covered the week from December 29, 1919, to January 3, 1920. At this time a new constitution was adopted, perfecting the plan that had been under study for some years and establishing the present organization of sections and associated societies. The change was in keeping with the rapid growth of the association which had by that date reached a total of over eleven thousand in membership, nearly three times the enrolment in 1903, and over eleven times the membership in 1878 when the association first met in St. Louis.

Located in 1764 at a strategic point on the great river, St. Louis was for forty years the center of commerce for the French territory known as the Louisiana Purchase. When that area in 1803 came into our nation, more than doubling its previous extent, the city acquired even greater importance. The development of river traffic made St. Louis the focal point of what is now the largest inland waterways system in the world. Its great bridges, planned at an early date to give accessibility to the east are triumphs of engineering skill. Its great drug and chemical companies with extensive manufacturing enterprises in many other lines, its network of radiating trunk lines at railways connecting East and West, and its proximity to rich supplies of coal, oil and other raw materials have built up commercial interests far reaching in importance.

Among the outstanding objects of scientific interest in the city stands, first, the Jefferson Memorial with collections recording the early history of the city and state, of French and Spanish pioneers and adventurers and of earlier native races; the old court house; the U. S. Grant cabin; the Zoo and the Arena in Forest Park; the huge municipal airport, and the world-

famous Missouri Botanical Garden, founded by Henry Shaw. These and other features of interest to scientific men should be in mind when the trip to St. Louis is being planned.

St. Louis University and Washington University, with their medical schools, hospitals and other significant features, join with numerous other educational institutions to welcome the visiting scientists and afford them space and equipment for meetings, discussions and demonstrations. Many sections and societies are taking advantage of these opportunities.

HOTEL HEADQUARTERS

General headquarters for the association, including several of the sections, will be at the New Jefferson Hotel. Since not all can be accommodated at this hotel, a large number of other hotels in St. Louis are available. Headquarters for the various special societies have been assigned as follows:

New Jefferson: Sections on Chemistry, Geology and Geography, Anthropology, Social and Economic Sciences, Engineering, Medical Sciences and Agriculture; Entomological Society of America; American Association of Economic Entomologists; American Society of Parasitologists; Wilson Ornithological Club; Metric Association; American Society of Agronomy; Potato Association of America; Society of the Sigma Xi; United Chapters of Phi Beta Kappa; Honor Society of Phi Kappa Phi; American Association of University Professors; Pi Gamma Mu; Sigma Delta Epsilon Women's Graduate Fraternity.

Chase: Section on Physics; American Physical Society; American Association of Physics Teachers; National Council of Geography Teachers; Association of American Geographers.

Coronado: Section on Mathematics; American Mathematical Society; Mathematical Association of America; National Council of Teachers of Mathematics; Econometric Society; American Society for Horticultural Science.

Mayfair: American Meteorological Society; Section on Astronomy; Section on Historical and Philological Sciences; History of Science Society.

Melbourne: American Nature Study Society; Seismological Society of America.

Statler: Sections on Botanical Sciences, Psychology and Education; Botanical Society of America; American Phytopathological Society; American Society of Plant Physiologists; Mycological Society of America; American Fern Society; American Society of Naturalists; Genetics Society of America; American Division, International Association for Dental Research; Gamma Alpha Graduate Scientific Fraternity.

Warwick: Section on Zoological Sciences; Phi Sigma Society; Ecological Society of America.

RAILROAD RATES

Reduced railway rates on the receipt certificate plan have been granted by almost all railroads in the United

States and Canada. Persons attending the meeting should purchase a first-class, one-way ticket to St. Louis, securing a receipt certificate reading "For the American Association for the Advancement of Science and Associated Societies." The certificate must be left at the registration desk to be called for later in the same place. Each person presenting an endorsed and validated certificate may purchase a return ticket for one third of the regular fare on the same route as used in going to St. Louis. Tickets to St. Louis from many points may be purchased between December 25 and January 1, although from far western points they may be purchased as early as December 23. Return tickets must be purchased by January 8.

A number of the railroads in the East and Midwest have announced special excursion fares for the Christmas holidays. The rate will be about the same as the special convention fares arranged for the St. Louis meeting.

In view of possible further reduction of fares and the various periods when going tickets may be purchased on the certificate plan, as well as on the special Christmas fares, it is advisable to consult the local ticket agent.

REGISTRATION

The main registration headquarters will be in the new Municipal Auditorium, where registration facilities will be opened on Monday, December 30, and maintained throughout the meeting. Any one interested in the advancement of science or education may register upon payment of the registration fee of \$1.00.

Each registrant receives a copy of the General Program, an identification card and a badge. Registration is necessary to obtain validation of certificates for reduced railway fares. Each registrant is entitled to the validation of his own railway certificate. At the registration desk reservations may be made for all excursions and banquets. The registration desk will also handle all mail, telegrams, etc., and furnish information as desired.

GENERAL SESSIONS

The evening sessions of the association will be held in the Opera House at the Municipal Auditorium and will open at 8:15. On Monday the program will include a welcome to the association and associated societies extended formally by representatives of the city and the host institutions. The main address will be delivered by the retiring president, Dr. Edward L. Thorndike, of Teachers College, Columbia University, on "Science and Values." The address will be followed by a reception tendered to the association and guests by the St. Louis Local Committee.

On Tuesday evening the Sigma Xi address is to be given by John Bellamy Taylor, of the General Elec-

tric Company, on the topic "The Electric Eye and the Human Eye."

On Wednesday evening the first of a series of annual lectures sponsored by the United Chapters of Phi Beta Kappa, emphasizing the cultural aspects of science, will be given by Professor Frederick J. E. Woodbridge, of Columbia University, on "The Claims of Science."

On Thursday evening the address will be given by Dr. Harold G. Moulton, president and director of the Brookings Institution in Washington, D. C. The topic of the address is "The Scientific Method in the Investigation of Economic Problems."

A series of important scientific addresses of general import and appealing to more than a single section is to be given at 4:30 in the afternoon. On Monday afternoon Dr. B. A. Houssay, Harvard Medical School, will give an address on "Hypophysis and Metabolism." Dr. Karl F. Meyer, of the G. W. Hooper Foundation, University of California, will speak on Tuesday afternoon on the subject, "Plague, Past and Present." On the same afternoon Dr. Erwin H. Barbour, of the University of Nebraska, will deliver an illustrated address on "The Proboscidea of the Plains." On Tuesday afternoon also will be given the address of Professor Frederick Slocum, of Wesleyan University, retiring vice-president of the Section on Astronomy, who will speak on "The Changing Picture of the Universe."

Dr. Stanhope Bayne-Jones, of the Yale University School of Medicine, will discuss on Wednesday afternoon "Bacterial Poisons and Their Antidotes." This is the vice-presidential address of the Section on Medical Sciences. On the same afternoon Dr. Vern O. Knudsen, of the University of California, recipient last year of the twelfth Association Prize, will speak on the subject of his prize paper, "The Absorption of Sound in Gases." Wednesday afternoon will be used also for an address by Carl Snyder, retiring vice-president of the Section on Social and Economic Sciences. He will speak on "The Rule of Capitalism in Civilization."

On Thursday afternoon the twelfth Josiah Willard Gibbs Lecture under the auspices of the American Mathematical Society will be given by Dean Vannevar Bush, of the Massachusetts Institute of Technology, on the subject "Mechanical Analysis." On the same afternoon Dr. V. K. Zworykin, of the Radio Corporation of America, will give a lecture on "Electron Optical Systems and Their Applications." Thursday afternoon also is announced for the address of Dr. Solon J. Buck, of the National Archives, retiring vice-president of the Section on Historical and Philological Sciences; he will speak on "The National Archives and the Advancement of Science."

VICE-PRESIDENTIAL ADDRESSES

The addresses of the vice-presidents are announced in the subjoined schedule and are arranged in the order of their presentation.

Section on Geology and Geography (E): Monday, 11: 00 A. M. Reverend James B. Macelwane, S.J., of St. Louis University, on "Problems and Progress on the Seismologico-Geological Frontier."

Section on Agriculture (O): Tuesday, 9: 30 A. M. Dean Jacob G. Lipman, of Rutgers University, on "The Conservation of our Land Resources."

Section on Mathematics (A): Tuesday afternoon. Professor R. D. Carmichael, of the University of Illinois, on "Linear Differential Equations of Infinite Order."

Section on Botanical Sciences (G): Tuesday afternoon. Dr. Bernard O. Dodge, of the New York Botanical Garden, on "The Genetics of the Ascomycete Neurospora."

Section on Astronomy (D): Tuesday, 4: 30 P. M. Professor Frederick Slocum, of Wesleyan University, on "The Changing Picture of the Universe."

Section on Psychology (I): Tuesday evening. Professor John E. Anderson, of the University of Minnesota, on "Child Development and the Interpretation of Behavior."

Section on Education (Q): Tuesday evening. Professor Guy T. Buswell, of the University of Chicago, on "Some Contributions of the Study of Eye Movements to the Psychology of Perception."

Section on Physics (B): Wednesday morning. Dr. Henry G. Gale, of the University of Chicago, on "The Diffraction Grating."

Section on Medical Sciences (N): Wednesday, 4: 30 P. M. Dr. Stanhope Bayne-Jones, of Yale University School of Medicine, on "Bacterial Poisons and Their Antidotes."

Section on Zoological Sciences (F): Wednesday evening. Dr. Oscar Riddle, of the Carnegie Institution of Washington, on "The Confusion of Tongues."

Section on Historical and Philological Sciences (L): Thursday, 4: 30 P. M. Dr. Solon J. Buck, director of publications of the National Archives, on "The National Archives and the Advancement of Science."

Section on Chemistry (C): Thursday evening. Professor Joel H. Hildebrand, of the University of California, on "Dipole Attraction and Hydrogen Bond Formation in Their Relation to Solubility."

Section on Anthropology (H): Friday evening. Professor Melville J. Herskovits, of Northwestern University, on "Applied Anthropology and the American Anthropologist."

Section on Social and Economic Sciences (K): Wednesday, 4: 30 P. M. Mr. Carl Snyder, of the Federal Reserve Bank, New York City, on "The Rule of Capitalism in Civilization."

Section on Engineering (M): (Time not yet fixed). Dr. Charles E. Skinner, of the Westinghouse Electric and Manufacturing Company, on "Civilization's Debt to the Engineer."

PRESS SERVICE

The exposition of science in the press is essentially a compromise between what scientific men and women would like to see and what the layman readers of the press would most prefer to read. Such a compromise has many angles that are not fully understood by all concerned. For the St. Louis meeting there is planned a meeting, of the most informal kind, between the section and society secretaries and the representatives of the press at which both sides will be prepared to answer frankly any and all questions asked by the other regarding the broader principles or the technique of the popular presentation of science. Although the relations between science and the press have greatly improved during the past decade there are certain difficulties still to be overcome, and it is hoped that the way to their eventual solution may be cleared by informal, free and frank discussion.

SCIENCE EXHIBITION

The annual science exhibition in connection with these meetings is to be held in the new Municipal Auditorium. It is believed that the membership will be attracted both by the quality and number of displays and demonstrations. The science library will have the 1935 science books and will furnish an opportunity to survey the product of scientific achievement as compiled in the year's output of books.

OFFICIAL MEETINGS

The council of the association will convene at 2:00 on Monday afternoon and will hold further sessions at 9:00 each morning during the week.

The Academy Conference, consisting of official delegates from affiliated academies with designated representatives from the association, will hold its annual session for discussion at 4:00 on Monday afternoon. The Academy dinner will follow at 6:15 and will adjourn at 7:45 to attend the opening general session at 8:15.

The Secretaries' Conference, composed of all secretaries of sections and of affiliated societies, will meet for luncheon with members of the Executive Committee of the Association on Friday at 12:30. The formal session for discussion of the regular program will open immediately after luncheon.

SOCIAL AFFAIRS

The joint smoker of the biological societies is to be held this year as usual, on Tuesday evening after the dinners and general session, in order to avoid conflicts with events announced for the early evening hours.

For Tuesday evening have been announced group

dinners for physicists, entomologists, phytopathologists, ecologists, ornithologists and the Phi Sigma Society, as well as the Sigma Xi buffet supper preceding the Sigma Xi address on that date. A joint luncheon for members of the Sections on Psychology and on Education has also been arranged for Tuesday noon. The geneticists will hold their annual luncheon on Tuesday noon.

Wednesday evening dinners include those of the mathematicians, zoologists, botanists, horticulturists and the American Nature Study Society. Luncheons have been planned for Wednesday noon by the parasitologists and the econometrists.

Thursday evening includes primarily the dinner of the naturalists, following which an address will be given by Dr. J. C. Merriam, president of the society. On that evening also will be held a dinner arranged by the St. Louis Section of the American Chemical Society in cooperation with the Section on Chemistry.

On Friday evening the annual dinner of the Section on Anthropology will be given, and on Saturday evening the dinner of the American Division of the International Association for Dental Research.

SECTIONAL AND SOCIETY PROGRAMS

The Section on Mathematics (A), the American Mathematical Society, the Mathematical Association of America and the National Council of Teachers of Mathematics will meet from Monday, December 30, to Friday, January 3. The Mathematical Association will meet on Monday morning and afternoon with joint sessions on Tuesday morning and afternoon, the Mathematical Society on Tuesday to Friday, and the National Council on Tuesday and Wednesday.

On Monday morning and afternoon the Mathematical Association will hold sessions for the reading of papers by invited speakers, including a report from the Commission on the Training and Utilization of Advanced Students of Mathematics. On Tuesday morning the Section on Mathematics, the Mathematical Association and the National Council will hold a joint session. A report of progress will be made on behalf of the Committee on the Place of Mathematics in the Secondary Schools, which is acting under the joint auspices of the Mathematical Association and the National Council. Following this, addresses will be given on the topic "The Purposes and Objectives of High School Mathematics," by William Betz, of the Rochester, N. Y., schools, representing the National Council, and by Professor W. W. Hart, of the University of Wisconsin, representing the Mathematical Association. During the latter part of Tuesday morning the Mathematical Society will hold its first meeting for the presentation of short papers. On Tuesday

afternoon a joint session of the section, the society and the association will be held. Professor R. D. Carmichael, of the University of Illinois, will give his address as retiring vice-president and chairman of the section, on the topic "Linear Differential Equations of Infinite Order," and by invitation of the society Professor J. L. Synge, of the University of Toronto, will speak on "Tensorial Methods in Dynamics."

Tentative arrangements have been made for a joint meeting on Thursday morning of the Econometric Society, the Institute of Mathematical Statistics and the American Mathematical Society. The twelfth Josiah Willard Gibbs Lecture, under the auspices of the society, will be delivered on Thursday afternoon at 4:30 by Dean Vannevar Bush on the topic "Mechanical Analysis." On the invitation of the society Professor G. Szegő will deliver a lecture entitled "Some Recent Investigations concerning Sections of Trigonometric and Related Series" at one of its sessions.

The headquarters for mathematicians will be the Coronado Hotel. A joint dinner for all mathematicians will be held on Wednesday evening.

The Section on Physics (B) will hold its meeting as usual jointly with the American Physical Society and the American Association of Physics Teachers. The joint session will be held on Wednesday morning, January 1, and will include three papers. One of these will be the address of the retiring president of the Physical Society, Dr. Robert W. Wood. The second paper will be delivered by Dr. A. H. Compton, previously retired president of the American Physical Society, on the subject "Recent Developments in Cosmic Rays." The address of the retiring vice-president of the section, Dr. Henry G. Gale, will be entitled "The Diffraction Grating." A joint session of the American Physical Society and the American Association of Physics Teachers will be held on Tuesday afternoon, December 31, on the subject "Photoelectricity." There will be a joint dinner of the two societies on Tuesday evening. The American Meteorological Society will meet on Monday and Tuesday. Two joint sessions are planned for Tuesday, one in the morning with the Association of American Geographers for climatological papers and one in the afternoon with the Section on Astronomy on the cosmic relations of the high atmosphere. At other sessions stress will be laid on the value in weather forecasting of vertical sections of the lower five or ten miles of the atmosphere and on methods for obtaining the required aerological data.

The Section on Chemistry (C) will hold sessions on Wednesday and Thursday, January 1 and 2. On Wednesday morning there will be a joint session of this section with the Section on Education and with the cooperation of the Division of Chemical Education of the American Chemical Society, for the second

of a series of three symposia on the relationships of the science of chemistry to education. The subject of this symposium will be "The Teaching of Chemistry." Professor Ross A. Baker, of the College of the City of New York, will act as chairman and will present the introduction, the title of which is "The Objectives of the Subject of Chemistry." Professor J. H. Simons, of Pennsylvania State College, will speak on "Teaching Chemistry for Its Cultural and Training Values." Professor J. C. Bailar, of the University of Illinois, will speak on "Teaching Chemistry for Its Prerequisite and Professional Values." "The Problem of the Laboratory and Lecture Demonstration" will be discussed by Professor H. C. Deming, of the University of Nebraska. Professor W. D. Harkins, of the University of Chicago, will speak on "Keeping Chemistry Teaching and the Text Books Modern," and "Special Problems in the Teaching of Chemistry" will be discussed by Professor Warren C. Johnson, of the University of Chicago. On Thursday there will be sessions for contributed papers both morning and afternoon. On Thursday evening a dinner has been arranged by the St. Louis Section of the American Chemical Society. Following the dinner the retiring vice-president of the section, Professor Joel H. Hildebrand, will give an address on "Dipole Attraction and Hydrogen Bond Formation in Their Relation to Solubility."

The Section on Astronomy (D) will meet on Tuesday and Wednesday, December 31 and January 1, and possibly on January 2. Sessions for contributed papers will be held on Tuesday and Wednesday mornings and Wednesday afternoon. On Tuesday afternoon a joint session with the American Meteorological Society will be held, at which papers of common interest to astronomers and meteorologists will be read. It is expected that reports will be made on the progress of investigations in the upper atmosphere and on other topics of cosmic-terrestrial interest. The address of the retiring vice-president, Professor Frederick Slocum, on "The Changing Picture of the Universe," will form a feature of the general program of the association on Tuesday at 4:30 P. M.

An astronomical exhibit is being arranged in connection with the program of the section. It is anticipated that the exhibit will be representative of the important observatories of the United States and Canada and will also feature the work of the amateur telescope makers, which was an unusual attraction at the Pittsburgh meeting.

The Section on Geology and Geography (E) will be in session on Monday, December 30, and Tuesday, December 31, thus making it possible for members of the Geological Society of America to attend the gathering of geologists in New York prior to the sessions in St. Louis. Both sessions on Monday will be held

jointly with the Seismological Society of America, and the papers scheduled for that day will pertain to subjects of interest to both seismologists and geologists. The address of the retiring vice-president, Rev. James B. Macelwane, S.J., of St. Louis University, on "Problems and Progress on the Seismologico-Geological Frontier," will be delivered at 11:00. Papers dealing with the geomorphology, structural and economic geology, stratigraphy and paleontology of the Mississippi Valley will be especially welcomed for presentation at the sessions to be held on Tuesday morning and afternoon. The Association of American Geographers will hold its meetings on December 30 and 31 and January 1; on these days programs of contributed papers will be given.

The Seismological Society of America is planning three sessions on Monday and Tuesday, December 30 and 31, for the reading of papers by members.

The National Council of Geography Teachers will meet in St. Louis on December 27 and 28 at the Hotel Chase. Prominent geographers from coast to coast will take part in the program, which will include the following topics: (1) The Content of Beginners' Geography, (2) Advertising Geography, (3) Professionalized Subject-Matter in Geography, (4) Geography in World Relationships, (5) Geography in the Senior High School.

The Section on Zoological Sciences (F) will hold its sessions on December 31 and January 1 and 2. The sessions of Tuesday morning and afternoon will be devoted to the reading of papers. On Wednesday morning the section will meet jointly with the Ecological Society of America, the American Society of Parasitologists and the Section on Medical Sciences. The business meeting will be held Wednesday noon, and Wednesday afternoon will be devoted to demonstrations. There will be a dinner for all zoologists on Wednesday at 6:30, immediately following which the vice-presidential address will be given by Dr. Oscar Riddle, of the Carnegie Institution of Washington, on the subject "The Confusion of Tongues." On Thursday morning sessions for the reading of papers are scheduled, as well as a joint session with the American Society of Parasitologists.

The American Society of Parasitologists will hold its meetings on Tuesday, Wednesday and Thursday, December 31 to January 2, with a program of 63 titles, including the papers presented for demonstration. The presidential address, "Some Unsolved Problems in the Parasitology of Amebiasis," will be given by Colonel Charles F. Craig, of Tulane University, on Wednesday morning at a session held jointly with the Sections on Medical Sciences and on Zoological Sciences. The annual luncheon and business meeting will

be held on Wednesday noon and the demonstration session on Wednesday afternoon.

The Entomological Society of America will meet on December 30 and 31. The annual business meeting will be held on Tuesday afternoon. On Tuesday evening the two entomological societies will attend the entomologists' banquet sponsored by the American Association of Economic Entomologists. This will be followed by the annual address of the Entomological Society of America, to be given by Dr. C. P. Clausen, who is in charge of Foreign Parasite Introductions for the U. S. Bureau of Entomology and Plant Quarantine.

The American Association of Economic Entomologists will meet on December 30 and 31 and January 1. Sessions of the Section of Plant Quarantine and Inspection will be held on Monday morning and afternoon and the session of the Section on Apiculture on Monday afternoon. The association will meet jointly with the Entomological Society of America at noon on Monday, at which time the president of the association will speak. The Section of Extension Entomology will hold a session on Monday evening. The business meeting of the association will be on Tuesday morning and sessions for the reading of papers will be held on Tuesday morning and afternoon and Wednesday morning. The Wednesday afternoon session will be devoted to a symposium on "Orchard Sanitation," under the direction of Professor J. J. Davis, of Lafayette, Ind., vice-president of the association.

The Wilson Ornithological Club will meet on December 29, 30 and 31. Members present Saturday afternoon will visit the Missouri Botanical Garden and participate in an all-day field trip on Sunday. About forty papers and moving picture films will be presented at the morning and afternoon sessions on Monday and Tuesday. Papers of special interest concerning life history studies of birds will be read by Dr. P. L. Errington, Dr. Rudolph Bennett, Dr. L. J. Cole, Dr. T. S. Roberts, Dr. Leonard Wing and Margaret M. Nice. The annual dinner on Tuesday evening will be followed by the presidential address of Dr. Josselyn Van Tyne and special events, including two guest speakers.

The Section on Botanical Sciences (G) will meet in joint session with the Botanical Society of America, the American Phytopathological Society, the American Society of Plant Physiologists and the Mycological Society of America on Tuesday afternoon. The retiring vice-presidential address by Dr. B. O. Dodge, of the New York Botanical Garden, on "Reproduction and Inheritance in Ascomycetes," will be followed by a symposium on "The Promise of Modern Botany for Human Welfare." Mr. Frederick D. Richey, of the U. S. Bureau of Plant Industry, will speak on the

botanist as a creator; Professor E. C. Stakman, of the University of Minnesota, will discuss the botanist as a protector; and Dr. George T. Moore, of the Missouri Botanical Garden, will discuss the botanist as a cultivator.

The Botanical Society of America plans joint sessions as follows: (1) with the Section on Botanical Sciences and affiliated societies on Tuesday afternoon; (2) with the Ecological Society of America on Wednesday afternoon; and (3) with the American Society of Naturalists and affiliated societies on Thursday afternoon. Meetings of the sections of the society will occupy the forenoons. Botanical exhibits and demonstrations of researches will be displayed in rooms near the session rooms. The annual dinner of the society will be held on Wednesday evening, following which the presidential address will be given by Professor E. J. Kraus, of the University of Chicago.

The American Society of Plant Physiologists will hold a joint session with the American Society for Horticultural Science on Wednesday morning, on the effect of light on plant activity (other than photosynthetic and x-ray effects). At the annual dinner of the society the Stephen Hales Prize award will be made for meritorious work in plant physiology, and a distinguished plant physiologist will be honored by a Charles Barnes life membership. Papers will be read by members of the society on Tuesday, Wednesday, Thursday and Friday mornings.

The Mycological Society of America will meet from Tuesday to Thursday, inclusive. At the close of the business session on Tuesday morning the retiring president, Dr. B. O. Dodge, will preside at a round-table discussion of problems dealing with the sexuality of the fungi. A joint session with the Section on Botanical Sciences will be held on Tuesday afternoon and another with the American Phytopathological Society on Wednesday afternoon. Opportunity will be given on Thursday afternoon for the making of mycological demonstrations and the holding of conferences. The remaining sessions will be given over to the reading of mycological papers. The society will unite with the American Phytopathological Society and the Botanical Society of America in the dinners held by these affiliated organizations.

The American Phytopathological Society will meet from Tuesday, December 31, to Friday, January 3, and will celebrate appropriately the quarter-centennial of its official journal, *Phytopathology*. The presidential address will be made by Dr. H. T. Güssow, Dominion botanist, of Ottawa. Joint sessions will be held with the Section on Botanical Sciences on Tuesday afternoon, with the Mycological Society of America on Wednesday afternoon, with the Genetics Society of America on Thursday morning and with the Potato

Association of America on Thursday afternoon. Round-table conferences are being planned for discussions of the interrelations of research and extension work, regional or national cooperation in research, and other topics. The annual dinner will be held on Tuesday evening.

The American Fern Society will hold a session for papers on Tuesday afternoon. Arrangements have been made for an exhibition of specimens.

The following societies related to the Sections on Zoological Sciences (F) and on Botanical Sciences (G) have announced plans for meeting in St. Louis. The Ecological Society of America has arranged a program to occupy three days, beginning on Tuesday, December 31, with a general session in the morning. For Tuesday afternoon it has planned a symposium on the ecological aspect of government operations, with Dr. Herbert Hanson as chairman. The annual dinner will be held on Tuesday evening, following which an address will be given by the president of the society, Dr. Walter P. Taylor. The society will meet jointly with the Section on Zoological Sciences on Wednesday morning and with the Botanical Society of America on Wednesday afternoon. On Thursday morning a session devoted to a discussion of forest and range ecology will be held, as well as a business meeting.

The newly organized and recently affiliated Limnological Society of America will hold its first annual meeting at St. Louis in conjunction with the association. It is planned to have at least one general session for the reading of papers, a program of invited papers and a short business meeting.

The Genetics Society of America will omit from this year's program sessions with short formal papers and will substitute for these sessions with informal demonstration papers. These sessions will be held on Tuesday, December 31, forenoon and afternoon. On Wednesday afternoon is scheduled a round-table conference on "Species from a Genetic Standpoint," with L. J. Stadler as leader and J. Clausen, Th. Dobzhansky and Sewall Wright as introducers. This will be a joint session with the Taxonomic Section of the Botanical Society, the Section on Zoological Sciences and the American Society of Naturalists. On Thursday forenoon will be held a joint round-table conference with the American Phytopathological Society, the American Society of Agronomy and the American Society for Horticultural Science, on "Genetics and Plant Breeding," with E. W. Lindstrom as leader and H. K. Hayes, M. J. Dorsey, S. L. Emsweller and J. C. Walker as introducers. The annual luncheon will be held on Tuesday.

The American Society of Naturalists is again sponsoring the annual Biologists' Smoker on Tuesday late

in the evening. On Wednesday afternoon it will hold a round-table conference on "Species from a Genetic Standpoint," with L. J. Stadler, J. Clausen, T. Dobzhansky and Sewall Wright as speakers. This will be a joint session with the Genetics Society of America, the Botanical Society of America and the Section on Zoological Sciences. The naturalists' symposium, on the subject of early man in America with particular reference to the Southwestern United States, will be held on Thursday afternoon, with Chester Stock, Ernst Antevs, Paul MacClintock, Frank H. H. Roberts, Edgar B. Howard and E. H. Sellards as the principal speakers. The dinner of the society will be held on Thursday evening, followed by an address by Dr. John C. Merriam, president of the Carnegie Institution of Washington, on "Extent and Rate of Human Evolution—the Asking of Critical Questions."

The American Nature Study Society will meet on December 30 and 31 and January 1. December 30 will be devoted to an excursion to the Museums, Missouri Botanical Garden and its Gray Summit orchid house, and the Webster Groves Nature-Study Society's Wayside Museum, where tea will be served. On the morning of December 31 the program will be a résumé of St. Louis in the field of nature study. The afternoon program will be on "More Recent Phases of Nature Study." On January 1 there will be a short business meeting, committee reports and a discussion of "Science Education" by leaders outstanding in the study of nature. The banquet will be held on the evening of January 1, when an illustrated lecture will be given by a noted scientist. Two exhibits are being planned, one in connection with the general science exhibit and the other at the American Nature Study headquarters.

The American Microscopical Society will hold its annual business meeting on Thursday, January 2, at 4:00 p. m.

The Phi Sigma Society will hold business meetings on Monday, December 30, and scientific sessions for the reading of papers by junior research workers on Tuesday, December 31. The dinner of the society will be held on Tuesday evening.

The Section on Anthropology (H) will hold its sessions on the mornings of Thursday to Saturday, January 2 to 4, in the Anatomical Laboratory of Washington University. On Thursday morning the program will center upon a discussion of comparative racial morphology, with especial reference to American Whites and American Negroes. G. A. Seib and R. J. Terry will discuss the muscular system; M. Trotter, G. D. Williams and W. W. Graves will consider certain phases of bone and soft part relationships. The Friday morning session will be devoted to the prehistory of the Mississippi Valley, with contributions from

Thorne Deuel, W. C. McKern, J. B. Griffin, G. K. Neumann and other mid-western archeologists. On Saturday morning there will be a round-table discussion of the integration of the several divisions of anthropology, both with one another and with related disciplines. On Friday night the section will hold its annual dinner with the retiring vice-president, Professor M. J. Herskovits, as the speaker. The weather permitting, a visit to the Cahokia Mound Group will be made.

The Section on Psychology (I) will meet from December 30 to January 1. A joint meeting with the Section on Education is planned for Tuesday afternoon, at which four papers on the general subject of maturation and learning will be read by members from the two sections who are doing research in this general field. The other program will be devoted to the reading of submitted papers by members of the section. On Tuesday noon there will be a joint luncheon of the Section on Psychology and the Section on Education, at which addresses will be given by Professor John E. Anderson, of the University of Minnesota, retiring vice-president of Section I, on "Child Development and the Interpretation of Behavior," and by Professor Guy T. Buswell, University of Chicago, retiring vice-president of Section Q, on "Some Contributions of the Study of Eye Movements to the Psychology of Perception."

The Section on Social and Economic Sciences (K) will hold sessions on Tuesday afternoon, December 31, and on Wednesday and Thursday, January 1 and 2. On Tuesday afternoon papers will be given by Professor Stuart A. Queen, Washington University, St. Louis, on "An Ecological Study of St. Louis," and by Professor E. T. Hiller, of the University of Illinois, on "Regional Types and Trends; a Study of Ecological Organizations." The vice-presidential address will be given at 4:30 on Wednesday afternoon by Carl Snyder on "The Rule of Capitalism in Civilization." On Wednesday morning a paper will be read on "The Trends of the Decade in Social Work and Related Fields," by Dr. Fred S. Hall, editor of the Social Work Year Book, Russell Sage Foundation, New York City. This will be followed by a paper on "The Influence of the Cotton Program on the Southern Cropper, Tenant and Labor," by Fred C. Frey, dean of the College of Arts and Sciences, and head of the Department of Sociology, Louisiana State University, Baton Rouge. At the Thursday morning session Raymond D. Thomas, member of the Oklahoma Tax Commission, Oklahoma City, will present a paper on "The Economic Implications of Increased Taxation." Miss Leah Feder, assistant professor of social work at Washington University, St. Louis, will discuss "The Trend of Relief Administration During the Last Half

Century." The Thursday evening general session will be addressed by Dr. Harold G. Moulton, president of the Brookings Institution, Washington, D. C., who will speak on the subject "The Scientific Method in the Investigation of Economic Problems." Other sessions may be held on Tuesday and Friday mornings; joint sessions with the econometrists are planned for afternoons.

The Econometric Society will hold sessions on Thursday and Friday, January 2 and 3. The meetings on Thursday afternoon and evening will be devoted to symposia on the relation of building activity to business cycles. One program will consider financial aspects, on which papers will be given by Dr. Spurgeon Bell, director of the Statistics and Research Division of the Home Owners' Loan Bank Board, and by Alfred Cowles III, director of the Cowles Commission for Research in Economics. The effects of public building on economic conditions and the relations between farm and urban values will be discussed at another session, the speakers being Dr. Alexander Sachs, director of research for the Lehman Corporation, and Roy Wenzlick, director of Real Estate Analysts, Inc. A third program will be devoted to statistical analyses of factors influencing building activity, with papers by Dr. Charles F. Roos, of Colorado College, and W. H. Newman, of Chicago. Several authorities are expected to be added to the list of speakers. On Thursday morning there will be a joint session of the Econometric Society, the American Mathematical Society and the newly organized Institute of Mathematical Statistics, the program consisting of both invited and contributed papers on mathematical statistics and mathematical economics. One of the invited addresses will be given by Dr. Thomas H. Rawles, of Colorado College, who will discuss the mathematical theory of index numbers. The Econometric Society will hold another session on Friday, when Dr. Louis J. Paradiso and Victor S. von Szeliski, of the Review Division of NRA, will discuss statistical measurements of the effects of style, quality and price on retail purchases of shoes. Thursday noon there will be a luncheon of the society, followed by a short program, after which a business session will be held. Other meetings of the society will be held in New York on December 30 and 31, in conjunction with the meeting of the social science societies.

The Section on Historical and Philological Sciences (L) will hold joint sessions with the History of Science Society and the St. Louis Academy of Science on Thursday and Friday, January 2 and 3. On the first day there will be a symposium on "The Study and Teaching of the History of Science," led by Dr. George Sarton, of Harvard University. On the program will be Dr. Charles W. Morris, of the University of Chi-

ago, Dr. L. C. Karpinski, of the University of Michigan, Dr. H. T. Davis, of Indiana University, and Dr. Robert S. Woodbury, of the Massachusetts Institute of Technology. The second day will be devoted to the history of science in the St. Louis area, and the program being prepared will be of special interest to people living in and around St. Louis. It is anticipated that on the program will be Dr. Henry E. Sigerist, of Johns Hopkins University, Dr. Chauncey D. Leake, of the University of California, and Dr. C. A. Browne, president of the History of Science Society. The address of the retiring vice-president, Dr. Solon J. Buck, director of publications of The National Archives, will be on "The National Archives and the Advancement of Science."

The preliminary program for the meeting of the Section on Engineering Sciences (M) contemplates a symposium on Friday evening, January 3, at the rooms of the Engineers' Club, 4359 Lindell Boulevard, on the subject "Should the Engineering Profession Formulate a Philosophy of Social Welfare?"

The discussion will be opened by Dr. Karl T. Compton, president of the Massachusetts Institute of Technology as well as of the American Association for the Advancement of Science, who has agreed to give an explanation of the work of the Engineers' Council for Professional Development, with special reference to its relation to the subject of the evening. General Robert I. Rees, a member of the Executive Committee of the Council and vice-president of the American Telephone and Telegraph Company, will also participate, as will Dean D. S. Anderson, of Tulane University, president of the Society for the Promotion of Engineering Education. Dean A. S. Langsdorf, of Washington University, St. Louis, will present a brief paper on the general topic of the evening. Thereafter the meeting will be thrown open for general discussion.

The Section on Medical Sciences (N) will hold sessions for the reading of papers on the mornings of Monday, Tuesday, Wednesday, Thursday and Friday, December 30, through January 3; on Wednesday afternoon, January 1, at 4:30, Dr. Stanhope Bayne-Jones, vice-president and chairman of the section, will present an address dealing with "Bacterial Poisons and Their Antidotes." The sessions on Thursday and Friday will be devoted to symposia on the Sex Hormones. The isolation and chemistry of the estrogenic hormones will be discussed by Dr. E. A. Doisy, of St. Louis University. Dr. Marrian, of the University of Toronto, will take up the question of the excretion of combined oestrin during pregnancy. Certain clinical aspects of the use of ovarian substance will also be presented by Dr. Marrinus of Detroit. The hormonal control of menstruation will be the subject of a paper by Dr. G. W. Corner, of Rochester. This paper will

be followed by a discussion of the chemistry and physiological significance of progesterone by Dr. Willard Allen, also of Rochester. The clinical use of progesterone will then be discussed by Dr. Howard F. Kane, of George Washington University, in which impressive results with the use of this hormone in combatting habitual abortion will be presented. Another aspect of the female sex hormones, the lactogenic hormone, will be considered by Dr. C. W. Turner, of the University of Missouri. The session on Monday will be reserved for the presentation of a series of papers of varied nature. Among them are a paper by Dr. Laura A. Lane, of the University of Michigan, on an occupational study of cancer of the eye, and a discussion of yellow fever in the mosquito host, *Aedes aegypti*, by Dr. Cornelius B. Philip, of the U. S. Public Health Service. On Tuesday a joint session of the Section on Medical Sciences with the Subsection on Pharmacy will be held. Among the papers which will be presented by the Medical Sciences Section are two by Dr. T. Koppányi, Dr. J. N. Dille and Dr. C. R. Linegar, of Georgetown University, on certain aspects of the peripheral action of barbiturates and a paper on the control of bronchial asthma by Dr. Noel F. Shambaugh of Los Angeles. In addition to these, Dr. Marvin Thompson, of the University of Maryland, has been invited by the Subsection on Pharmacy to present a paper on the pharmacology, therapeutics and chemistry of the new alkaloid of ergot which has received so much attention both in this country and abroad during recent months. A joint session with the Parasitologists will be held on Wednesday, the details of which will be reported under that heading.

The Subsection on Dentistry has arranged a program under the auspices of the American Division of the International Association for Dental Research, with the cooperation of the American Dental Association, the American Association of Dental Schools and the American College of Dentists. They will have an all-day meeting on Saturday, January 4. A dinner will precede the evening session. Papers on diseases of the mouth, stressing caries, will present the results of recent researches. Dental exhibits will be shown in conjunction with the general scientific exhibits, in the Exhibit Hall of the Auditorium, from Tuesday to Friday.

In addition to the joint session noted, the Subsection on Pharmacy will hold a meeting on Tuesday afternoon. Among the papers presented at that time is one on cortin by Dr. Arthur Grollman, of Johns Hopkins University, and one by Dr. John C. Krantz, Jr., of the University of Maryland, on the effect of chlorinating ethylenes on the perfused leg vessels of the frog.

The Section on Agriculture (O), in conjunction

with the American Society of Agronomy, has arranged a symposium for Tuesday morning, December 31, on the subject "The Conservation of the Land." This will be of large general interest to all members of the association as well as to section members, as the subject is a very live and popular one at the present time and one which is extremely important, since conservation is directly involved in much of the emergency work of the national government and is an integral part of all land-use planning studies. The program will open with the address of the retiring vice-president of the association and chairman of the section, Dr. Jacob G. Lipman, of New Jersey, whose subject is "The Conservation of Our Land Resources." He will discuss the broad aspects of conservation and its importance to agriculture and to the future security of the nation. The remaining addresses will center around the conservation problems and the general program of erosion control in the Mid-West and the Far-West range country. Dr. C. R. Enlow, well-known plant authority, will discuss "Regrassing Semi-Arid Plains." Dean L. E. Call, of Kansas, will present the results of "Cultural Methods of Controlling Wind Erosion," summarizing the work which has been done to prevent the recurrence of the disastrous dust storms of last year. Dr. George Stewart, of the Forest Service in Utah, will discuss the problem of "Range Management in Relation to Erosion Control," emphasizing the importance of erosion control in the range country and presenting the results of research work which has been carried out along this line. A discussion will follow each address. On Thursday morning, January 2, there will be a joint round-table conference with the Genetics Society of America on the subject "Genetics and Plant Breeding." Vice-president H. K. Hayes will represent the section and also the American Society of Agronomy as a leader in this conference.

The American Society for Horticultural Science will meet on December 31 and January 1 and 2. There will be a joint meeting with the Potato Association of America on Tuesday afternoon; one with the American Society of Plant Physiologists on Wednesday morning, the program being devoted to physiological problems of horticultural plants; and a joint session with the Genetics Society on Thursday morning. The banquet will be held on Wednesday evening, at which time the president of the society, Director H. H. Zimmerley, of Norfolk, Va., will give his address.

The Potato Association of America plans joint sessions with other organizations as follows: (1) with the American Society for Horticultural Science on Tuesday afternoon; (2) with the American Phytopathological Society on Thursday afternoon. The Wednesday morning program will be devoted to a considera-

tion of seed potato certification and the Wednesday afternoon session to a discussion of new developments in potato breeding. Among those who will take part in this program are F. J. Stevenson, E. S. Schultz, C. F. Clark, W. P. Raleigh, Reiner Bonde, F. A. Krantz, H. C. Moore, A. F. Yeager, N. E. Gardner, J. C. Miller, A. T. Erwin and J. G. Leach. Other subjects to be discussed include potato scab and rhizoctonia, spraying, irrigation, marketing and control measures. These subjects will be discussed by leaders in the various fields.

The Section on Education (Q) plans three sectional meetings, two joint programs with the Section on Psychology and one with the Section on Chemistry. A sectional program has been planned for Monday morning, December 30, based on studies in personality, its nature, genesis, organization and measurement. The afternoon program will relate to studies of learning in reading and arithmetic. On Tuesday morning the sectional program will consist primarily of reports of studies from field members. A joint program has been planned with the Section on Psychology for Tuesday afternoon on "Maturation and Learning." Papers will be presented by Dr. E. L. Thorndike, of Columbia University, Dr. Leonard Carmichael, of Brown University, and Dr. Calvin P. Stone, of Stanford University. At the annual luncheon to be held jointly with the Section on Psychology on Tuesday noon the retiring vice-presidents of the two sections will give addresses. On Wednesday morning will be held a joint session with the Section on Chemistry, with the cooperation of the Division of Chemical Education of the American Chemical Society.

The Society of the Sigma Xi will hold its thirtieth annual convention on Tuesday, December 31. The executive committee of the society will meet at 2:00 o'clock in the Hotel Jefferson. The business session will convene at 4:00 o'clock, a buffet supper will follow and the fourteenth annual lecture, given under the joint auspices of the association and the society, will be delivered in the evening by John Bellamy Taylor, of the General Electric Company, on the topic "The Electric Eye and the Human Eye."

The United Chapters of Phi Beta Kappa is sponsoring the first of a series of annual lectures emphasizing the cultural aspects of science on Wednesday evening, January 1. Dr. Frederick J. E. Woodbridge, Johnsonian professor of philosophy at Columbia University, editor of *The Journal of Philosophy*, and a member of the editorial board of *The American Scholar*, will inaugurate this series with an address entitled "The Claims of Science." This meeting will be open to the general public and all local Phi Beta Kappa members will be specially invited to attend. Throughout the entire five days of the meeting there will be an

exhibit of *The American Scholar*, laying particular stress upon the quarterly's participation in interpreting to laymen developments in the various scientific fields. This exhibit will be a division of the general exhibit of the association.

The American Association of University Professors will hold its twenty-second annual meeting in connection with the meetings of the American Association for the Advancement of Science at St. Louis on Monday and Tuesday, December 30 and 31. Among the annual reports to be presented are those of the Committee on Academic Freedom and Tenure, Professor Carl Wittke, of Ohio State University, *chairman*; the

Committee on Pensions and Insurance, Professor E. W. Patterson, of Columbia University, *chairman*; and the Committee on Place and Function of Faculties in University and College Government, Professor G. H. Sabine, of Cornell University, *chairman*. A special report will be submitted by the new Committee on the Effect of Depression and Recovery on Higher Education. The usual formal dinner will be omitted in order that members may attend the general session on Monday evening. At the regular luncheon on Tuesday formal addresses will be given, including that of the retiring president, Professor S. A. Mitchell, of the University of Virginia.

OBITUARY

JOSEPH PETERSON

DR. JOSEPH PETERSON, professor of psychology at the George Peabody College for Teachers, Nashville, Tennessee, died on September 20, at the age of fifty-seven years. Less than two weeks before that date, at Ann Arbor, Michigan, he presided as a past-president of the American Psychological Association at one of its official convocations. He was stricken with pneumonia while visiting his son in California.

Dr. Peterson attended the University of Chicago, where he received the A.B. degree in 1905, was a fellow for two years (1905-1907) and received the Ph.D. in 1907.

He spent five years in public school work before entering college. At the conclusion of his academic training he served as professor of psychology at Brigham Young University, the University of Utah, the University of Minnesota, where he was chairman of the department for one year, and the George Peabody College for Teachers, where he had been professor since 1918.

Dr. Peterson was one of the ablest and most active members of his institution and aided materially in making it an important educational influence in the southern states.

In 1925, in collaboration with the president of his college, he made a survey of the equipment of teacher-training institutions of the South for giving training in psychology and educational psychology. The conditions disclosed were generally considered to be so deplorable that the Southern Society for Philosophy and Psychology appointed a committee, with Dr. Peterson as chairman, to take some effective action. He was largely responsible for the setting of standards of efficiency of teachers and students that have had a decidedly beneficial influence upon the universities, teachers' colleges and training schools throughout the South.

Although burdened with a heavy load of teaching and administrative work, he was a tireless investigator in the field of psychology and published many important scientific papers, particularly in the field of race differences, measuring techniques and learning. His work on race differences was characterized by an open-mindedness and balance of judgment greatly needed but so frequently lacking in studies of this question. In learning he was particularly concerned with its mechanisms and did much to clarify our thinking about it. His contributions to the techniques of measurement were more varied and less systematic, but were no less valuable on that account.

In addition to his other responsibilities, he was always ready and willing to carry his share of editorial and other activities for the good of his science. He was an associate editor of the *Peabody Journal of Education*, of the *Mental Measurement Monographs* and of the *American Journal of Psychology*. For this publication he built up a department of book reviews that constitutes a very real asset to scientific workers in psychology. In 1935 he became editor of the *Psychological Monographs*, succeeding the late Shepard Ivory Franz.

From 1926 to 1929 he was a member of the division of anthropology and psychology of the National Research Council, and in 1932 he served on its committee on fellowships.

All these varied activities took heavy toll of the time and energy of one who never seemed to be robust. He lived on an enthusiasm for his work, a devotion to his colleagues and a genuine love of science that have been an inspiration to all those who have come into contact with him.

A. T. POFFENBERGER

RECENT DEATHS

CHARLES LESLIE FLEECE, head of the department of chemistry, Central College, Fayette, Mo., died on